

REMARKS

Claims 20-28 and 31 are pending. By this Amendment, claims 20 and 31 are amended to clarify the features recited and to overcome the Office Action's objection. Support for the amendment of claims 20 and 31 can be found in Applicant's specification, for example, at page 44, lines 18-21, and in Fig. 21. Thus, no new matter is added by the amendments. Reconsideration of the application based on the above amendments and following remarks is respectfully requested.

Claims 20-28 and 31 are objected to. Claims 20 and 31 are amended to overcome the objection. Reconsideration and withdrawal of the objection is respectfully requested.

Claim 31 is rejected under 35 U.S.C. §102(b) over Nishiki (JP-A-03-119875); claim 20 is rejected under 35 U.S.C. §103(a) over Glenn (U.S. Patent No. 7,230,646) in view of Nishiki; claims 20, 21 and 25 are rejected under 35 U.S.C. §103(a) over Esser (U.S. Patent No. 4,799,109) in view of Nishiki; claims 22 and 26 are rejected under 35 U.S.C. §103(a) over Esser in view of Nishiki further in view of Gallagher (U.S. Patent No. 6,765,611); claims 23 and 27 are rejected under 35 U.S.C. §103(a) over Esser in view of Nishiki further in view of Morris (U.S. Patent No. 6,665,010); and claims 24 and 28 are rejected under 35 U.S.C. §103(a) over Esser in view of Nishiki further in view of Tanaka (U.S. Patent No. 6,982,751). These rejections are respectfully traversed.

The combinations of applied references fail to disclose, and would not have rendered obvious, the plurality of vertical CCDs have two transport electrodes ... an arrangement of the transport electrodes in even number arrays is out of phase and reverse to an arrangement of the transport electrodes in odd number arrays, as recited in claim 20, and similarly recited in claim 31.

In rejecting Applicant's claims, the Office Action alleges that the vertical CCDs V1-V5 correspond to the plurality of vertical CCDs recited in Applicant's claims. The Office Action's analysis fails for at least the following reasons.

As shown in Figs. 1-4 of Nishiki, Nishiki discloses various wiring patterns of the vertical CCDs V1-V5 together. However, Nishiki fails to disclose a feature that can reasonably be interpreted to correspond the above quoted features recited in claims 20 and 31 because Nishiki does not disclose a feature that can be interpreted to correspond to the recited arrangement of the transport electrodes. Glenn, Esser, Gallagher, Morris and Tanaka fail to overcome the deficiencies of Nishiki explained above regarding claims 20 and 31.

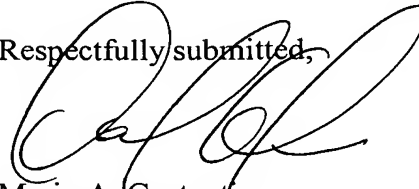
Accordingly, the combinations of applied references would not have rendered obvious the combinations of features recited in claims 21-28 for at least the dependence on these claims on claim 20, and for the separately patentable features that these claims recite.

Reconsideration and withdrawal of the rejections are respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 20-28 and 31 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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